

ABSTRACT

Fibers melt-spun from a thermoplastic alternating copolymer composed of alkenes and carbon monoxide have a

- tenacity  $BT > 900 \text{ mN/tex}$ ,
- melting point  $T_m > 220^\circ\text{C}$ ,
- crystallinity  $V_c > 33\%$ , and
- birefringence  $\Delta n > 0.0550$ .

These fibers are prepared by melt-spinning the copolymer and then drawing the resulting fibers, the spinning process being conducted using a polymer melt free of crystallization nuclei at a temperature of at most  $40\text{K}$  above the melting temperature of the polymer  $T_m$  (in  $\text{K}$ ) and the drawing of the fibers being conducted at a temperature in the range of  $T_{mc} - 15\text{K}$  to  $T_{mc} - 90\text{K}$ , with  $T_{mc}$  representing the constrained melting temperature, at a draw ratio in the range of 5 to 12 and a drawing tension corrected for temperature  $DT_{d,corr}$  in the range of 105 to 300  $\text{mN/tex}$ . The fibers are pre-eminently suitable for use as reinforcing yarn in rubber articles such as car tires.